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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,558	03/30/2001	John S. Howard	42390P10857	6360

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EXAMINER

DANG, KHANH NMN

ART UNIT	PAPER NUMBER
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2111

DATE MAILED: 01/14/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/823,558

Applicant(s)

HOWARD ET AL.

Examiner

Khanh Dang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-8, 10-17, 19, 22-24, 27, and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Larky et al.

At the outset, it is noted that similar claims will be grouped together to avoid repetition in explanation.

As broadly drafted, these claims do not define any structure that differs from Larky et al. With regard to claim 1, Larky et al. discloses an apparatus comprising: a bus master (12, for example) to control transactions on a bus; a schedule (as in any USB device/bus, the USB device/bus of Larky et al. must adhere to the USB/Host Controller Specification (widely available from the Internet, for example) wherein period and asynchronous schedule (set up by the host controller driver software and "contain

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information about a plurality of endpoints) must be provided for scheduling transactions of a plurality of endpoints coupled to the bus; and a counter (also "counter" in Larky et al.) to count flow control events (NAKs, for example) issued by at least one of the plurality of endpoints, such that the bus master suspends service to an endpoint which has issued a threshold number of flow control events (a threshold number of NAK signal, for example). With regard to claims 22, 23, 27, and 28, as in any USB device/bus, the USB device/bus of Larky et al. must adhere to the USB/Host Controller Specification (widely available from the Internet, for example) wherein transfers/transactions are executed in queues having a queue control controlling from a circular linked list and/or frame list (array of elements). With regard to claim 24, it is clear that the USB schedule is stored in a "memory." See also explanation above regarding claim 19. With regard to claims 1-7, 9-17, it is clear that one using the system of Larky et al. would have performed the same steps set forth in claims 1-7, 9-17.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larky et al.

Larky et al., as explained above, discloses the claimed invention including the use of idle time or timeout. However, Larky et al. does not disclose the use of 10 microseconds for idled time or timeout. It would have been obvious to one of ordinary skill in the art at the time the invention was made to set the idled time or timeout of Larky et al. to 10 microseconds, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claims 20, 21, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larky et al.

Larky et al., as explained above, discloses the claimed invention including the use of a counter. However, Larky et al. does not particularly disclose the use of a circular counter or linear counter. It would have been obvious to one of ordinary skill in the art at the time the invention was made to select a circular counter or linear counter for the counter of Larky et al., since the Examiner takes Official Notice that circular and linear counters are old and well-known in the art; and the selection of either counter is clearly within the level of ordinary skill in the art. If the Applicants choose to challenge the fact that linear and circular counters are old and well-known, supportive document(s) will be provided upon request.

Claims 1-19, 22-24, 27, and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Yap.

At the outset, it is noted that similar claims will be grouped together to avoid repetition in explanation.

As broadly drafted, these claims do not define any structure that differs from Yap. With regard to claim 1, Yap discloses an apparatus comprising: a bus master (2+10, for example) to control transactions on a bus; a schedule (as in any USB device/bus, the USB device/bus 2+10 of Yap must adhere to the USB/Host Controller Specification (widely available from the Internet, for example) wherein period and asynchronous schedule (set up by the host controller driver software and "contain information about a plurality of endpoints) must be provided for scheduling transactions of a plurality of endpoints (printer, keyboard, etc.) coupled to the bus; and a counter (also "counter" in Yap et al.) to count flow control events (NAKs, for example) issued by at least one of the plurality of endpoints, such that the bus master suspends service to an endpoint which has issued a threshold number of flow control events (a threshold number of NAK signal, for example). With regard to claims 22, 23, 27, and 28, as in any USB device/bus, the USB device/bus of Yap et al. must adhere to the USB/Host Controller Specification (widely available from the Internet, for example) wherein transfers/transactions are executed in queues having a queue control controlling from a circular linked list and/or frame list (array of elements). With regard to claim 24, it is clear that the USB schedule is stored in a "memory." See also explanation above regarding claim 19. With regard to claims 1-18, it is clear that one using the system of

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Yap would have performed the same steps set forth in claims 1-18. With regard to claims 8 and 18, the predetermined idled time or timeout in Yap is at least 2.5 microseconds (emphasis added).

Claims 20, 21, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yap.

Yap, as explained above, discloses the claimed invention including the use of a counter. However, Yap does not particularly disclose the use of a circular counter or linear counter. It would have been obvious to one of ordinary skill in the art at the time the invention was made to select a circular counter or linear counter for the counter of Yap, since the Examiner takes Official Notice that circular and linear counters are old and well-known in the art; and the selection of either counter is clearly within the level of ordinary skill in the art. If the Applicants choose to challenge the fact that linear and circular counters are old and well-known, supportive document(s) will be provided upon request.

Response to Arguments

Applicants' arguments filed 10/31/2003 have been fully considered but they are not persuasive.

At the outset, Applicants are reminded that claims subject to examination will be given their broadest reasonable interpretation consistent with the specification. *In re Yamamoto*, 740 F.2d 1569, 1571, 222 USPQ 934, 936 (Fed. Cir. 1984). In fact, "an

examiner has the duty to police claim language by giving it the broadest reasonable interpretation.” *Springs Window Fashions LP v. Novo Industries, LP.*, 65 USPQ2d 1826, 1830 (Fed. Cir. 2003). Applicants are also reminded that claimed subject matter not the specification, is the measure of the invention. Disclosure contained in the specification cannot be read into the claims for the purpose of avoiding the prior art. *In re Sporck*, 55 CCPA 743, 386 F.2d, 155 USPQ 687 (1986).

With this in mind, the discussion will focus on how the terms and relationships thereof in the claims are met by the references. Response to any limitations that are not in the claims or any arguments that are irrelevant and/or do not relate to any specific claimed language will not be warranted.

The Larky et al. 102 (e) Rejection:

With regard to claim 1 (with claims 2-9 stand or fall together), 10 (with claims 11-18 stand or fall together), 19 (with claims 22 and 23 stand or fall together), and 24 (with claims 27 and 28 stand or fall together), Applicants argued that Larky et al. does not disclose “a counter that counts flow control events (e.g., NAKs).” Contrary to Applicants’ argument, the counter in Larky et al. sets a time period by counting a predetermined number of flow events such as NAKs. As a matter of fact, Larky does not use a “timer” as alleged by Applicants. Larky clearly states that the counter has “a value between 0 and 255 data frames.” Specifically, in Larky et al., once there is no more data to be sent, the device sends not acknowledge signals (NAKs) back to the host and starts a time-out counter. Also, in at least claim 20, Larky et al. clearly states

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that the “counter counts down one or more USB data frames.” Certainly, counting data frame isn’t counting time using a timer. Thus, it is clear that the counter of Larky et al. indeed counts the number of flow events such as NAKs.

The Yap 102(e) Rejection:

With regard to claim 1 (with claims 2-9 stand or fall together), 10 (with claims 11-18 stand or fall together), 19 (with claims 22 and 23 stand or fall together), and 24 (with claims 27 and 28 stand or fall together), Applicants argued that Yap does not disclose “a counter that counts flow control events [e.g., NAKs].” Contrary to Applicants’ argument, Yap discloses counter that counts if the toggle variable is set (see at least the abstract). The toggle variable indicates that the USB device is in a busy condition (note that under USB protocol, NAKs are sent back). The count is incremented when a toggle variable is set. Every time a NAK is sent back (busy condition) a count is incremented. In another word, the counter in Yap counts flow control events (NAKs).

The Larky et al. 103 Rejection:

With regard to claims 20, 21, 25, and 26, Applicants asserted that the claimed circular counter and linear counter are inventive and challenged the fact that are they old and well-known in the art. In response, a bald statement such as “Applicants first challenge the Official Notice and respectfully request supportive documentation to prove that circular and linear counters are well-known in the art” is not adequate and does not shift the burden to the Examiner to provide evidence in support of the Official

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Notice. Allowing such a statement to challenge Official Notice would effectively destroy any incentive on the part of the Examiner to use it in the process of establishing a rejection of notoriously well-known facts. In the instant case, Applicants have not provided adequate information or argument so that on its face it creates a reasonable doubt regarding the circumstances justifying the Official Notice. Therefore, the presentation of a reference to substantiate the Official Notice is not deemed necessary. However, in an effort to advance prosecution of this application, a supportive document is provided below, and the Examiner's taking of Official Notice has been maintained because of the following reasons. It is a common knowledge in the art that circular counter counts in a round robin fashion. That is the circular or ring counter counts from 0 to (x-1) and upon reaching (x-1), the counter returns to 0, and begins counting anew. It is also a common knowledge in the art that linear counter counts to its capacity and needs to be reset to effectively return the counter to its start position. U.S. Patent No. 4,103,148 to Erickson is provided as evidence. If Applicants wish to find more info/document regarding these conventional counters, a Google search might be helpful. Applicants also argued that "there is no motivation to use circular or linear counter in combination with Larky et al." In response to applicants' argument that there is no motivation use circular or linear counter in Larky et al., the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837

F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it is clear that Larky et al. discloses the use of a counter; and it is a common knowledge that circular and linear counters are old and well-known counters. As already clearly explained, the selection of any suitable counter among the known counters involves only routine skill in the art. It is also clear that either a circular or linear counter can be used in Larky et al. to count the flow events (NAKs) as the NAKs are sent back. in Larly et al., once there is no more data to be sent, the device sends not acknowledge signals (NAKs) back to the host and starts a time-out counter. Also, in at least claim 20, Larky et al. clearly states that the "counter counts down one or more USB data frames." Certainly, counting data frame isn't counting time using a timer. Thus, it is clear that the counter of Larky et al. indeed counts the number of flow events such as NAKs.

The Yap 103 Rejection:

With regard to claims 20, 21, 25, and 26, Applicants asserted that the claimed circular counter and linear counter are inventive and challenged the fact that are they old and well-known in the art. In response, it is a common knowledge in the art that circular counter counts in a round robin. That is the circular or ring counter counts from 0 to (x-1) and upon reaching (x-1), the counter returns to 0, and begins counting anew. It is also a common knowledge in the art that linear counter counts to its capacity and needs to be reset to effectively return the counter to its start position. U.S. Patent No. 4,103,148 to Erickson is provided as evidence. If Applicants wish to find more info/document regarding these conventional counters, a Google search might be

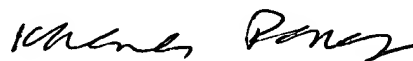
helpful. Applicants also argued that "there is no motivation to use circular or linear counter in combination with Yap." In response to applicants' argument that there is no motivation use circular or linear counter in Yap, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it is clear that Yap et al. discloses the use of a counter; and it is a common knowledge that circular and linear counters are old and well-known counters. As already clearly explained, the selection of any suitable counter among the known counters involves only routine skill in the art. It is also clear that either a circular or linear counter can be used in Yap. to count the flow events (NAKs). As a matter of fact, Yap discloses counter that counts if the toggle variable is set (see at least the abstract). The toggle variable indicates that the USB device is in a busy condition (note that under USB protocol, NAKs are sent back). The count is incremented when a toggle variable is set. Every time a NAK is sent back (busy condition) a count is incremented. In another word, the counter in Yap counts flow control events (NAKs).

U.S. Patent Nos. 4,103,148 to Erickson is cited as supportive document/evidence in response to Applicants' challenge to the fact that circular counter and linear counters are old and well-known.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Khanh Dang at telephone number 703-308-0211.



Khanh Dang
Primary Examiner